

Appl. No. 09/673,707
Amdt. dated October 12, 2004
Reply to Office Action of September 15, 2004

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) An immunotoxin comprising a cytotoxin attached to an anti-gp120 antibody having the binding specificity to the CD4 binding site of gp120 of 3B3 and a minimum binding affinity to gp-120 of 3B3, wherein said immunotoxin specifically binds to and kills mammalian cells infected with HIV-1.
2. (Original) The immunotoxin of claim 1, wherein said cytotoxin is selected from the group consisting of ricin, abrin, a modified diphtheria toxin, and a modified *Pseudomonas* exotoxin.
3. (Original) The immunotoxin of claim 2, wherein said cytotoxin is a modified *Pseudomonas* exotoxin.
4. (Previously presented) The immunotoxin of claim 3, wherein said modified *Pseudomonas* exotoxin is selected from the group consisting of PE38, PE40, PE38KDEL (KDEL = SEQ ID NO:9), and PE38REDL (RDEL = SEQ ID NO:10).
5. (Original) The immunotoxin of claim 4, wherein said modified *Pseudomonas* exotoxin is PE38.
6. (Original) The immunotoxin of claim 1, wherein said antibody is selected from the group consisting of a single-chain Fv (scFv), a single-chain Fab (scFab), and a disulfide stabilized Fv (dsFv).

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7. (Original) The immunotoxin of claim 6, wherein said antibody is a recombinantly expressed single-chain Fv.
8. (Original) The immunotoxin of claim 6, wherein said antibody is 3B3(Fv).
9. (Original) The immunotoxin of claim 1, wherein said immunotoxin is a fusion protein.
10. (Original) The immunotoxin of claim 1, wherein said immunotoxin is 3B3(Fv)-PE38.
11. (Original) The immunotoxin of claim 1, wherein said immunotoxin is suspended or dissolved in a pharmaceutically acceptable carrier or excipient.
- 12-18. Canceled.
19. (Withdrawn) A single chain Fv antibody having the binding specificity of 3B3.
20. (Withdrawn) The antibody of claim 19, wherein said antibody has the amino acid sequence of 3B3 or conservative substitutions thereof.
21. (Withdrawn) The antibody of claim 20, wherein said antibody is 3B3(Fv).
22. (Withdrawn) A nucleic acid that encodes a single chain Fv antibody having the binding specificity of 3B3.
23. (Withdrawn) The nucleic acid of claim 22, wherein said antibody has the amino acid sequence of 3B3 or conservative substitutions thereof.

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24. (Withdrawn) The nucleic acid of claim 20, wherein said nucleic acid encodes the 3B3 antibody.

25-51. Canceled.

52. (Currently amended) A kit for killing cells that display a gp120 protein, said kit comprising a container containing an immunotoxin comprising a cytotoxin attached to an anti-gp120 antibody having the binding specificity to the CD4 binding site of gp120 of 3B3 and a minimum binding affinity to gp-120 of 3B3, wherein said immunotoxin specifically binds to and kills mammalian cells infected with HIV-1.

53. (Original) The kit of claim 52, wherein said cytotoxin is selected from the group consisting of ricin, abrin, a modified diphtheria toxin, and a modified *Pseudomonas* exotoxin.

54. (Original) The kit of claim 53, wherein said cytotoxin is a modified *Pseudomonas* exotoxin.

55. (Original) The kit of claim 53, wherein said immunotoxin is 3B3(Fv) attached to a modified *Pseudomonas* exotoxin.

56. (Original) The kit of claim 55, wherein said immunotoxin is 3B3(Fv)-PE38.

57. (Currently amended) An immunotoxin of claim 1, wherein said immunotoxin is a disulfide-stabilized ("ds") FV ("~~dsFv~~").

58. (Previously presented) An immunotoxin of claim 57, wherein said immunotoxin is 3B3dsFv-PE38.

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59. (Withdrawn) A nucleic acid that encodes a single chain fusion protein, said nucleic acid comprising:

(a) a nucleic acid sequence that encodes a single-chain antibody having the binding specificity of 3B3; and

(b) a nucleic acid sequence that encodes a cytotoxin.

60. (Withdrawn) A nucleic acid of claim 59, wherein said cytotoxin is selected from the group consisting of ricin, abrin, a modified diphtheria toxin, and a modified *Pseudomonas* exotoxin.

61. (Withdrawn) A nucleic acid of claim 59, wherein said modified *Pseudomonas* exotoxin is selected from the group consisting of PE38, PE40, PE38KDEL (KDEL = SEQ ID NO:9), and PE38REDL (RDEL = SEQ ID NO:10).

62. (Withdrawn) A nucleic acid of claim 61, wherein said modified *Pseudomonas* exotoxin is PE38.

63. (Withdrawn) A nucleic acid of claim 59, wherein said antibody is selected from the group consisting of a single-chain Fv (scFv), a single-chain Fab (scFab), and a disulfide stabilized Fv (dsFv).

64. (Withdrawn) A nucleic acid of claim 63, wherein said antibody is a recombinantly expressed single chain Fv.

65. (Withdrawn) A nucleic acid of claim 63, wherein said antibody is a dsFv.

66. (Withdrawn) A nucleic acid of claim 63, wherein said antibody is 3B3(dsFv).

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67. (Withdrawn) A nucleic acid of claim 59, wherein said fusion protein is 3B3dsFv-PE38 or 3B3(Fv)-PE38.

68. (Previously presented) A composition, said composition comprising:
a pharmaceutically acceptable carrier or excipient; and
an immunotoxin comprising a cytotoxin attached to an anti-gp120 antibody
having the binding specificity of 3B3.

69. (Previously presented) A composition of claim 68, wherein said cytotoxin is selected from the group consisting of ricin, abrin, a modified diphtheria toxin, and a modified *Pseudomonas* exotoxin.

70. (Previously presented) A composition of claim 69, in which said modified *Pseudomonas* exotoxin is selected from the group consisting of PE38, PE40, PE38KDEL (KDEL = SEQ ID NO:9), and PE38REDL (RDEL = SEQ ID NO:10).

71. (Previously presented) A composition of claim 70, wherein said modified *Pseudomonas* exotoxin is PE38.

72. (Previously presented) A composition of claim 68, wherein said antibody is selected from the group consisting of a single-chain Fv (scFv), a single-chain Fab (scFab), and a disulfide stabilized Fv (dsFv).

73. (Previously presented) A composition of claim 72, wherein said antibody is a recombinantly expressed single-chain Fv.

74. (Previously presented) A composition of claim 73, wherein said antibody is 3B3(Fv).

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75. (Previously presented) A composition of claim 72, wherein said antibody is a dsFv.
76. (Previously presented) A composition of claim 75, wherein said antibody is 3B3(dsFv).
77. (Previously presented) A composition of claim 72, wherein said immunotoxin is a fusion protein.
78. (Previously presented) A composition of claim 77, wherein said immunotoxin is 3B3(Fv)-PE38.
79. (Withdrawn) A method of killing or inhibiting the growth of a cell displaying a gp120 protein or fragment thereof, said method comprising contacting said cell with an immunotoxin comprising a cytotoxin attached to an anti-gp120 antibody having the binding specificity of 3B3.
80. (Withdrawn) A method of claim 79, wherein said cytotoxin is selected from the group consisting of ricin, abrin, a modified diphtheria toxin, and a modified *Pseudomonas* exotoxin.
81. (Withdrawn) A method of claim 80, wherein said modified *Pseudomonas* exotoxin is selected from the group consisting of PE38, PE40, PE38KDEL (KDEL = SEQ ID NO:9), and PE38REDL (RDEL = SEQ ID NO:10).
82. (Withdrawn) A method of claim 81, wherein said modified *Pseudomonas* exotoxin is PE38.

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83. (Withdrawn) A method of claim 79, wherein said antibody is selected from the group consisting of a single-chain Fv (scFv), a single-chain Fab (scFab), and a disulfide stabilized Fv (dsFv).

84. (Withdrawn) A method of claim 83, wherein said antibody is a recombinantly expressed single-chain Fv.

85. (Withdrawn) A method of claim 83, wherein said antibody is 3B3(Fv).

86. (Withdrawn) A method of claim 83, wherein said antibody is a dsFv.

87. (Withdrawn) A method of claim 83, wherein said antibody is 3B3(dsFv).

88. (Withdrawn) A method of claim 83, wherein said immunotoxin is a fusion protein.

89. (Withdrawn) A method of claim 83, wherein said immunotoxin is 3B3(Fv)-PE38.

90. (Withdrawn) A method of killing or inhibiting the growth of cells bearing gp120 protein or fragment thereof, said method comprising administering to an organism containing said cells a composition comprising:

a pharmaceutically acceptable carrier or excipient; and

an immunotoxin comprising a cytotoxin attached to an anti-gp120 antibody having the binding specificity of 3B3 and minimum affinity of 3B3.

91. (Withdrawn) A method of claim 90, wherein said cytotoxin is selected from the group consisting of ricin, abrin, a modified diphtheria toxin, and a modified *Pseudomonas* exotoxin.

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92. (Withdrawn) A method of claim 91, wherein said modified *Pseudomonas* exotoxin is selected from the group consisting of PE38, PE40, PE38KDEL (KDEL = SEQ ID NO:9), and PE38REDL (RDEL = SEQ ID NO:10).

93. (Withdrawn) A method of claim 91, wherein said modified *Pseudomonas* exotoxin is PE38.

94. (Withdrawn) A method of claim 90, wherein said antibody is selected from the group consisting of a single-chain Fv (scFv), a single-chain Fab (scFab), and a disulfide stabilized Fv (dsFv).

95. (Withdrawn) A method of claim 94, wherein said antibody is a recombinantly expressed single-chain Fv.

96. (Withdrawn) A method of claim 94, wherein said antibody is 3B3(Fv).

97. (Withdrawn) A method of claim 94, wherein said antibody is a dsFv.

98. (Withdrawn) A method of claim 97, wherein said antibody is 3B3(dsFv).

99. (Withdrawn) A method of claim 90, wherein said immunotoxin is a fusion protein.

100. (Withdrawn) A method of claim 99, wherein said immunotoxin is 3B3(Fv)-PE38.

101. (Withdrawn) A method of claim 90, further comprising administering to said organism a protease inhibitor.

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102. (Withdrawn) A method of claim 90, further comprising administering to said organism a reverse transcriptase inhibitor.

103. (Withdrawn) A method of claim 90, further comprising administering to said organism both a protease inhibitor and a reverse transcriptase inhibitor and then withdrawing the reverse transcriptase inhibitor while maintaining protease inhibitor dosing during administration of said composition.

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